IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Stuart Serkin et al.	Art Unit	: 3692
Serial No.	: 09/404,518	Examiner	: Elda G. Milef
Filed	: September 23, 1999	Conf. No.	: 8450
Title	: MATCH-OFF OF ORDER FLOW IN ELECTRONIC MARKET SYSTEM		

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REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, Applicant responds to the Examiner's Answer as follows

The Board's Prior Decision

The examiner stated: **"As suggested in the decision rendered by the Board of Patents Appeals and Interferences decided on November 8, 2007, the Examiner has considered and applied the Tilfors et al. (US 6,405,180) reference in the examination of the application under appeal."** Appellant contends that Tilfors is no more relevant to the subject matter of these claims than May, previously used by the examiner and which resulted in reversal by the Board.

In the prior decision the Board found:

> We do not find that May matches market participants' identities. Webster's Collegiate Dictionary (Tenth Ed., 1996) defines "match", inter alia, as "4: to fit together or make suitable for fitting together." In May, the match or fit between parties occurs by checking credit preferences based on credit worthiness (May, col. 29,11. 21-23, col. 30 11. 20-43), and not the identification of the party as required by the claims. Since the counterparties each input desired credit preferences into the system (May, col. 30,11. 40-43) as the metric for matching, and not party identity, matching based on identity does not occur.

As with May, Tilfors also does not suggest "checking if a market participant identification ... matches a market participant identification representing a quote ... ." Thus,

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Tilfors is duplicative of May and therefore cannot render obvious the claims for reasons discussed below.

In the Board's prior decision, the Board offered the following guidance/analysis to the examiner.

> We remand this application to the Examiner for consideration of Tilfors (U.S. Patent No. 6,405,180 B2; issued Jun. 11, 2002). Tilfors discloses a method of executing an order in a market system (Tilfors, col. 1,11.14-19). We understand that a market maker may have itself as its client. Thus, in Tilfors, the customer is one in the same with the market participant when the broker/dealer acts on its own behalf as a market maker. Further, for a given order, Tilfors checks the market participant identification associated with the order as being one of a customer, a firm, or another market maker (Tilfors, col. 4,11. 15-17). Tilfors discloses using different types of trading procedures based on the type of counterpart being matched (Tilfors, col. 4,11. 18-26) all the while insuring that the quote in the system being used is at a best bid or best offer (Tilfors, col. 4,11. 37- 45).
>
> Although Tilfors discloses in column 5, lines 24 and 25 that when two market makers are counterparts no matching occurs, the embodiment of Figure 3 does appear to provide for a procedure for executing a trade for matching prices between two market makers (Tilfors, col. 5,11. 55-67, col.6,11.1-14). As such, we remand this application to the Examiner to consider whether any of the subject matter of the pending claims would have been obvious to one having ordinary skill in the art at the time of the invention in view of the teachings of Tilfors in combination with other pertinent art of which the Examiner is or becomes aware.

Appellant contends that Tilfors does not describe that: "a market maker may have itself as its client. " The Board did not provide any citation in Tilfors for teaching this feature. Rather, the Board appears to imply that when trading for its own account as a principal, a market maker trades with itself. Appellant believes this to be erroneous and in any event not described by Tilfors. Moreover, nowhere does Tilfors describe a trading procedure that could trade out of order (trade irrespective of any priority established for trades in the system) based on matching

of market maker identifications between a customer order and a quote at the opposite side of the market.

35 U.S.C. 103

Claim 1

The examiner states. "**In response to the appellant's argument that Tilfors do not disclose checking if a market participant identification associated with the order from the customer matches a market participant identification representing a quote in the computer system, Tilfors checks the market participation identification associated with the order as being one or a customer, a firm, or another market maker (Tilfors, col. 4 lines 15-1 7).**"[1] Claim 1 requires "receiving by a computer system an order from a customer of a market participant for the order, checking if a market participant identification associated with the order from the customer matches a market participant identification representing a quote in the computer system which is at a best bid or best offer price in the computer system; and if the market participant identification matches the market participant identification representing a best bid or offer quote in the computer system."

The examiner has neither given patentable weight nor examined all of the elements of this feature of claim 1, which requires not only checking an order, but requires checking the customer order to see if it has a market participant identification that corresponds to a market participant identification of a quote in the computer system that is at a best bid or best offer price in the computer system. Merely checking a customer order type, as disclosed by Tilfors, is insufficient to render obvious this feature of claim 1.

The examiner further argues that: "**Tilfors discloses using different types of trading procedures based on the type of counterpart being matched (Col. 4, lines 18-26) all the while insuring that the quote in the system being used is at the best bid or best offer (Tilfors, col. 4, lines 37-45).**"[2] Appellant contends that Tilfors' description of different types of trading procedures based on the type of counter party does not render obvious these features of claim 1. Tilfors describes:

> **Depending on the type of investor that has entered the buying price the automated exchange system selects different matching methods. Thus, in a**

[1] Examiner's Answer page 8.
[2] Id.

> **step 111, the type of counterpart is decided. If the counterpart is a customer the system selects a first matching method as illustrated in FIG. 2a. If the counterpart is a firm the system selects a second method as illustrated in FIG. 2b. If the counterpart is a market maker the system selects a third method as illustrated in FIG. 2c.** [3]

Tilfors describes in FIG. 2a a procedure when matching between a selling market maker and a buying customer where the market maker participates in the trade with the full volume and if and the customer order wants more (volume and price indicates further matching), a one-tick-worse rule is used for the remainder. Tilfors also makes allowance if the total volume is only a little smaller than the volume required by the exchange.

However, in this very instance of matching between a market maker that posts quotes and a customer order Tilfors is utterly silent of the feature of "checking if a market participant identification associated with the order from the customer matches a market participant identification representing a quote in the computer system " and the additional feature of "matching off the customer order against the one of the best bid or best offer quote of the matching market participant identification that is at an opposite side of a market irrespective of any other priority established for matching orders in the computer system."

Tilfors describes in FIG. 2b, a procedure when matching between a selling market maker and a buying firm, which is not applicable to the features of claim 1, which requires a customer order. Moreover, Tilfors in this passage neither describes nor suggests "checking if a market participant identification associated with the order from the customer matches a market participant identification representing a quote in the computer system " and the additional feature of "matching off the customer order against the one of the best bid or best offer quote of the matching market participant identification that is at an opposite side of a market irrespective of any other priority established for matching orders in the computer system." Again, Tilfors is discusses trade volume that the market maker participates in the trade with a firm volume and under what conditions to impose the "the one-tick-worse rule."

In FIG. 2c, Tilfors describes a procedure when matching between a selling market maker and a buying market maker. Again this is not applicable to the features of claim 1, which

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[3] Tilfors Cols. 4,5.

requires a customer order. In Tilfors, when the counterpart is a market maker, in particular a market maker quote, no match takes place. Tilfors also discusses should the incoming quote lock or cross the market and discusses handling trade volume but as with the other two examples does not suggest the features of claim 1.

FIG. 3 discusses a matching procedure between two market makers when a market is locked (in FIG. 2c). It would be illogical and likely not a valid entry for a market maker to cross or lock its own quote.

The examiner further argues that: "**("In step 109, it is decided which type of person has entered the buying price, e.g. a customer, a firm or another market maker.") col. 4 lines 15-17. It is obvious that in order for the system of Tilfors to segment participants into types of counterparties, there must be an identification of the participant, otherwise the system cannot distinguish among the participant and the process will fail. Therefore, there must be an identification of them.**" While Tilfors may indeed decide which "type of person" has entered the order, that does not render obvious "checking the customer order to see if it has a market participant identification that corresponds to a market participant identification of a quote in the computer system that is at a best bid or best offer price in the computer system." Merely deciding what "type of person" entered the order does not render obvious checking that order against a market participant identification at the best price. Tilfors, as outlined in Figs 2A-c, executes an incoming order against the best price in the system without checking the market participant identifications of the order and the quote to see if they correspond.

As to matching, the examiner stated:

> **In response to the appellant's argument that Tilfors does not disclose matching off the customer order against the one of the best bid or best offer quote of the matching market participant. Tilfors disclose (" When the trade is executed, a check is done of the total volume in the order book at the best bid offer, step 207.") col. 4 lines 37-45. Also, Tilfors disclose a procedure for executing an algorithm for matching prices between two market makers [market participants] wherein the prices are updated to arrive at the best price for both market makers, if the matching prices are established, the market makers having the matching offers are marked, and a match only takes place if the same, marked market [sic] makers still wants to trade. (Tilfors col. 5 line 55 to col. 6 line 6).**

The examiner however does not address every limitation of this feature of claim 1. The matching feature requires not merely matching against the best bid/offer, which Tilfors clearly does, but claim 1 requires that matching involves matching of the customer order against the best bid or offer quote of the matching market participant identification without irrespective of any priority for the orders/quotes established in the system.

Claims 3 and 21

Claim 3, further limits claim 1 by requiring that "matching off the order without regard to any priority is with respect to a time priority of a plurality of quotes in the computer system, at the opposite side of the market to the customer order."

The examiner did not address any specific arguments to this claim group.

Claims 6, 14, 17, and 20

Claim 6 further limits claim 1, by requiring that: "routing the order to a market participant corresponding to said market participant that has the one of the best bid or best offer that is at the opposite side of the market."

The examiner did not address any specific arguments to this claim group.

Claims 7, 8 and 22

Claim 7, further limits claim 1 by requiring that "the customer order is checked against proprietary quotes and agency quotes of a market participant identification representing a quote in the computer system which is at the best bid or best offer."

The examiner stated that:

> **Regarding the appellant's argument that Tilfors disclose a generic orderbook, and do not suggest proprietary or agency quotes. Tilfors disclose market makers for certain financial instruments, wherein market makers send prices to the order book in instruments where his is a market maker, the prices are sent in as quotes. Quotes are always limit orders that**

> **will be stored in the book if not matched. (Tilfors, col. 3 lines 50-57) Therefore, Tilfors disclose the market makers own trading interest.** [4]

Appellant stands by the arguments presented in the Appeal Brief that Tilfors neither describes nor suggests agency and proprietary quotes, as well as, the other features argued by Appellant for claim 7.

Claims 9 and 10

The examiner stated that:

> **Regarding the appellant's argument that Tilfors do not disclose receiving a customer order via an order execution system. The appellant's attention is directed to Tilfors col. 4 lines 6-17 wherein Tilfors refers to a flow chart (Fig. 1), illustrating some basic steps in an automated exchange system including receiving a sell price and a buy price, and the system determines which type of counterparty, e.g., a customer, a firm or another market maker is trading.** [5]

Appellant's specification is replete with what is meant by an order execution system[6] and why that is important for this aspect of the invention.[7] The examiner appears to confuse an order execution system with an order entry system which Tilfors does disclose.

Claims 4, 5, 13, 16 and 19

The examiner argues:

> **In response to the appellant's suggestion that neither Tilfors nor May disclose canceling a quote at the side of the market in which a matched off order will be executed. May discloses a system, method and computer program product for electronic trading of financial instruments including three order management functions to facilitate the canceling or temporary suspension of the order (May, col. 35, lines 41-54).**

May discusses both quotes and orders. As far as Appellant can tell, May has only disclosed canceling of orders not quotes. While May could have considered canceling of quotes,

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[4] Examiner's Answer page 9.
[5] Id. page 10.
[6] See for example, specification page 5, lines 17-19.
[7] Id. page 6, lines 16-27.

claim 4 requires more than a facility for canceling a quote. Claim 4 requires canceling under conditions, as stated in the claim, to achieve an advantage disclosed in Appellant's specification.[8] May discusses canceling orders by traders: "This may be an important functionality when the market is moving quickly, or if the position of a trader suddenly changes."[9]

May does not describe the feature relied on by the examiner, but the examiner reasons that May suggests this feature because May teaches canceling of an order. However, in modifying May and then combining with Tilfors the examiner applies *ex post* reasoning in contravention to what the Supreme Court in *KSR*[10] warned against at least because the impetus for canceling of a quote as required by claim 4 appears to originate, based on the record before the examiner, with Appellant's specification and/or claims, but not May, Tilfors or common knowledge.

Therefore, for these reasons, and the reasons stated in the Appeal Brief, Applicant submits that the rejection should be reversed.

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Respectfully submitted,

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[8] Specification, page 9, line 28 to page 10 line 3.
[9] May Col. 35, lines 44-46.
[10] *KSR Intl. Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007),